

FIG. 1

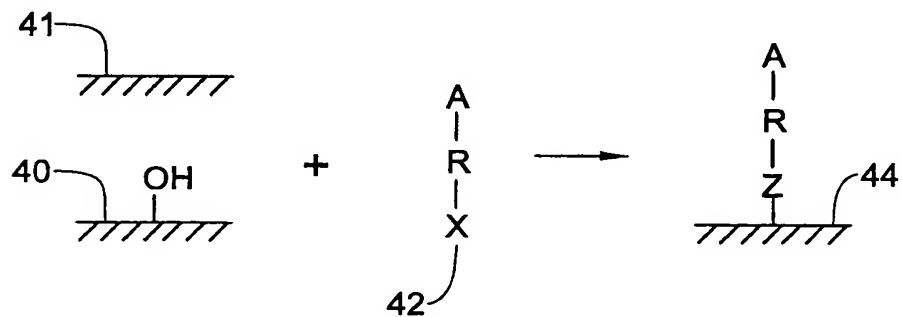


FIG. 2A

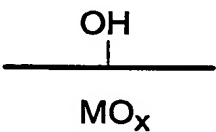
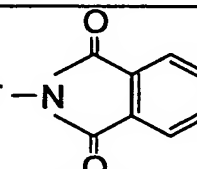
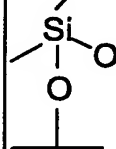
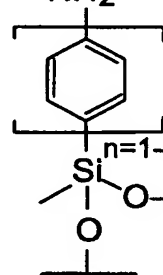
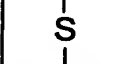
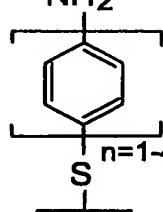
Substrate	Coupling Agent (X=silane or thiol)	Template Layer (Z=siloxane or metal sulfide)
 <p>MO_x M= Si, Ti, In, Fe, ... 40</p>	<p>A = NH₂ or </p> <p>R = alkyl or phenyl</p> <p>SiY₃ Y= halogen or alkoxy 42</p>	<p>H₂N (CH₂)_{n=2-6}  44</p> <p>NH₂  n=1-4</p>
<p>M or MM'</p> <p>M= Au, Pt, Cu, ... MM'= GaAs, CdSe, ... 41</p>	<p>NH₂ or NH₂ NH₂</p> <p>R or R R</p> <p>SH S — S</p> <p>R= alkyl or phenyl 42</p>	<p>NH₂ (CH₂)_{n=2-6}  44</p> <p>NH₂  n=1-4</p>

FIG. 2B

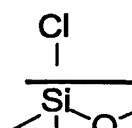
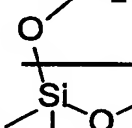
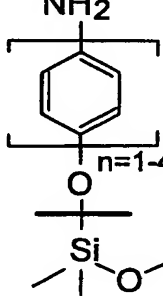
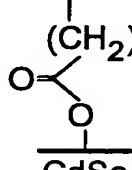
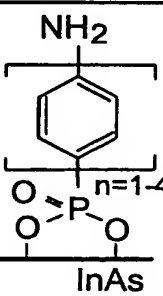
Substrate	Coupling Agent (X= OH,CO ₂ H, PO ₃ H ₂)	Template Layer (Z= alkoxy silane, phosphate or carboxylate)
 <p>40</p>	<p>HO - R - NH₂ R= alkyl or phenyl 42</p>	<p>H₂N (CH₂)_{n=2-6}  44</p> <p>NH₂  n=1-4</p>
<p>II -IV</p> <p>III-V</p> <p>41</p>	<p>HOOC - R - NH₂ (HO)₂OP - R - NH₂ R= alkyl or phenyl 42</p>	<p>NH₂ (CH₂)_{n=2-6}  CdSe 44</p> <p>NH₂  n=1-4 InAs</p>

FIG. 2B CONT

FIG. 3B

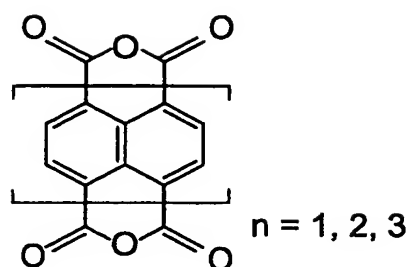


FIG. 4A

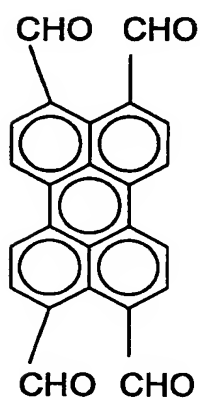


FIG. 4B

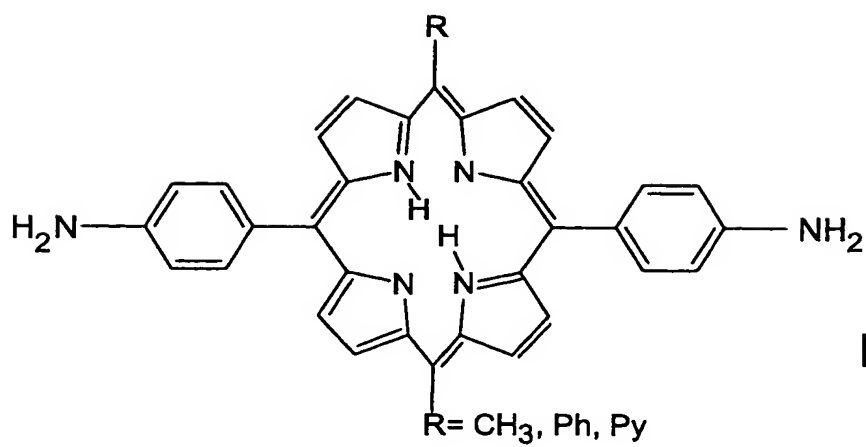


FIG. 4C

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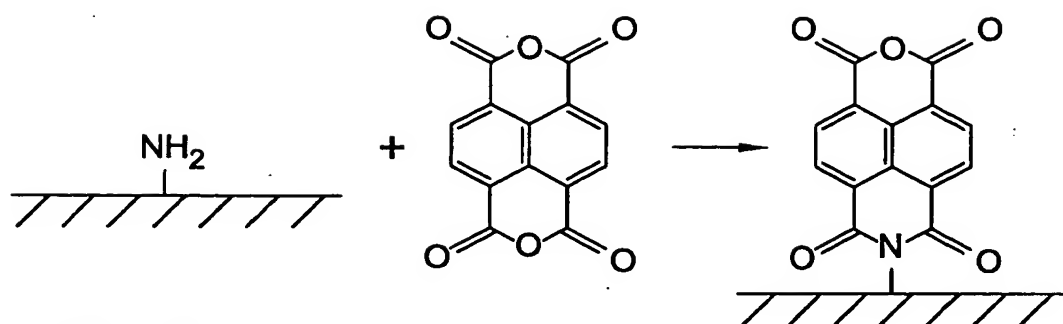


FIG. 5A

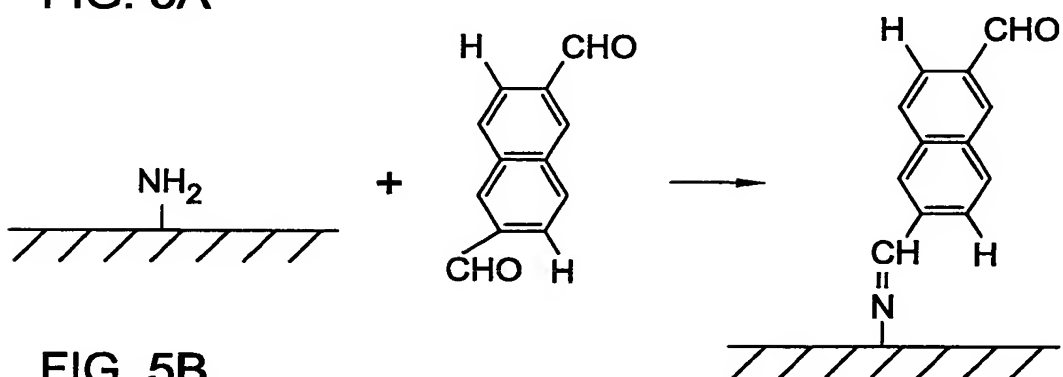


FIG. 5B

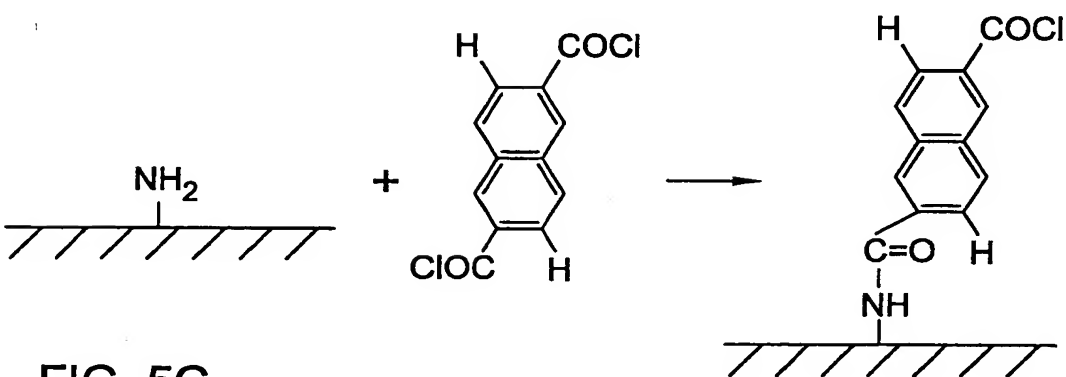


FIG. 5C

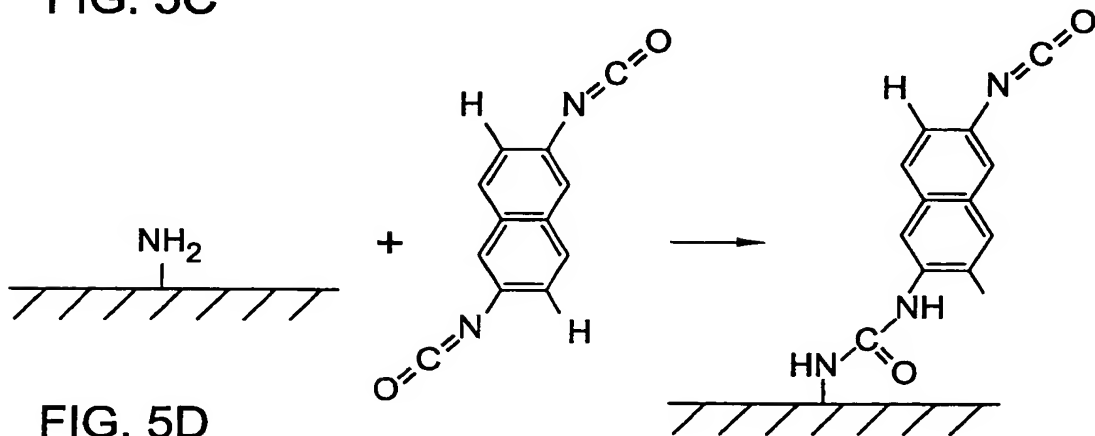


FIG. 5D

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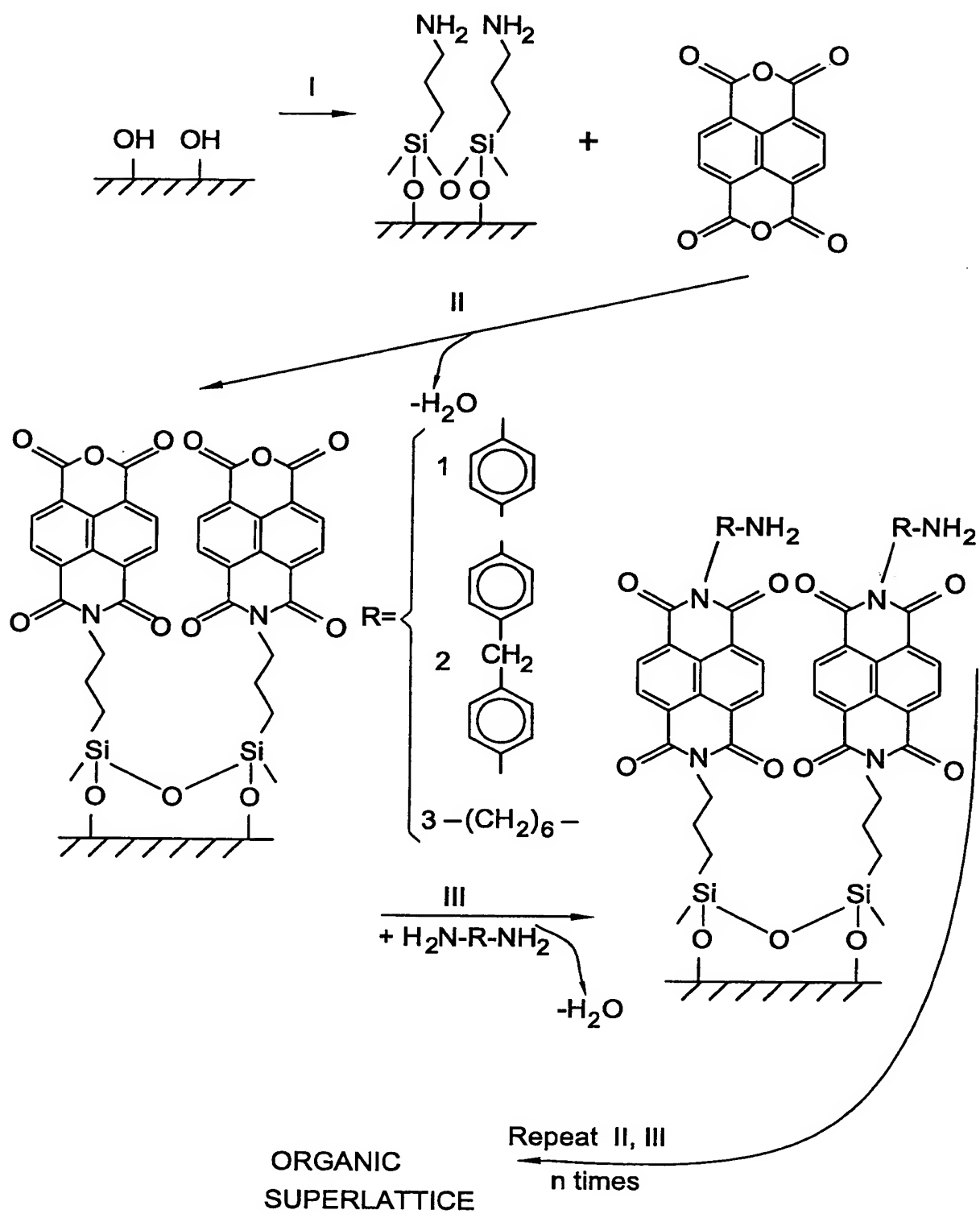


FIG. 6

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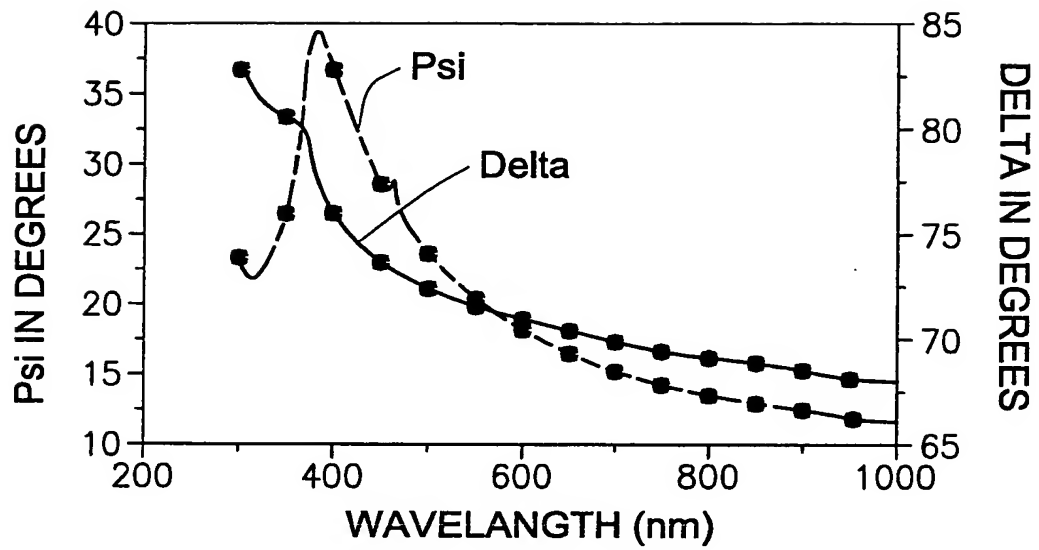


FIG. 7

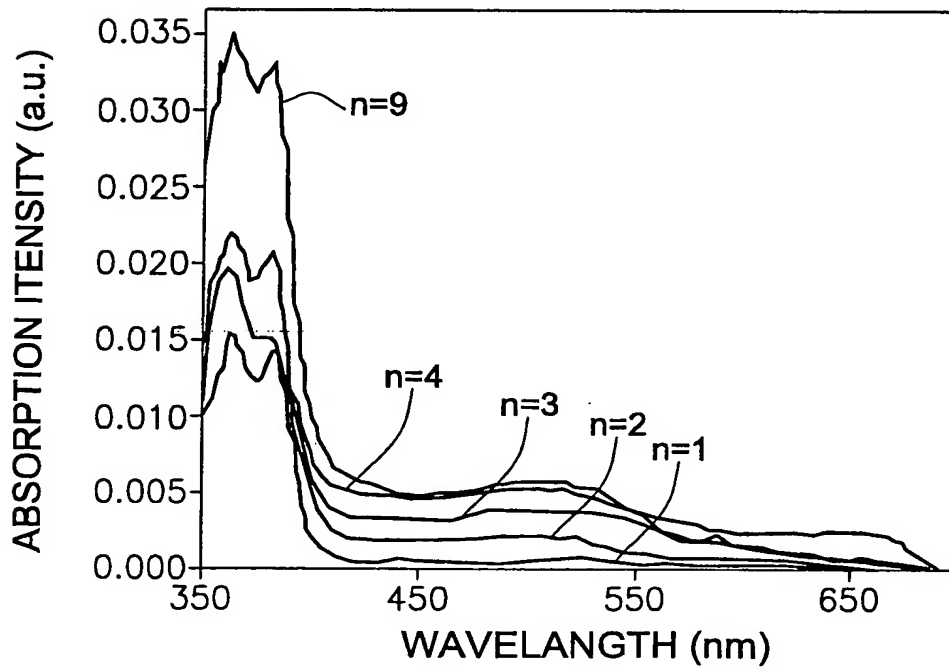


FIG. 8

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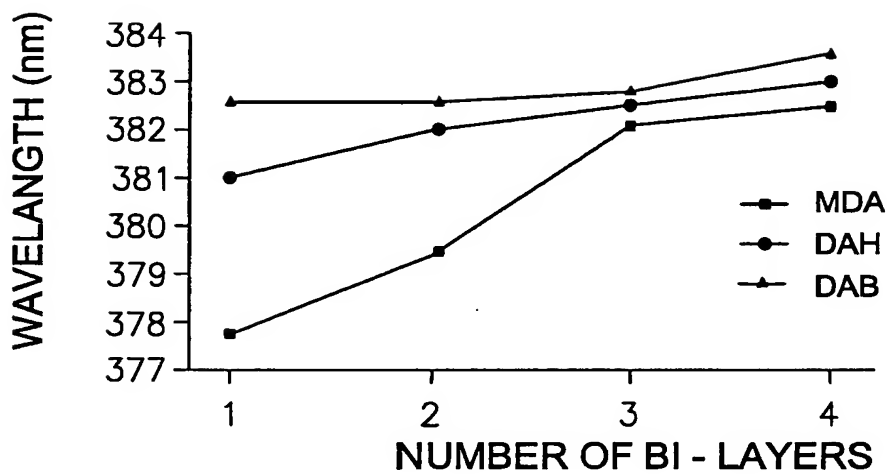


FIG. 9

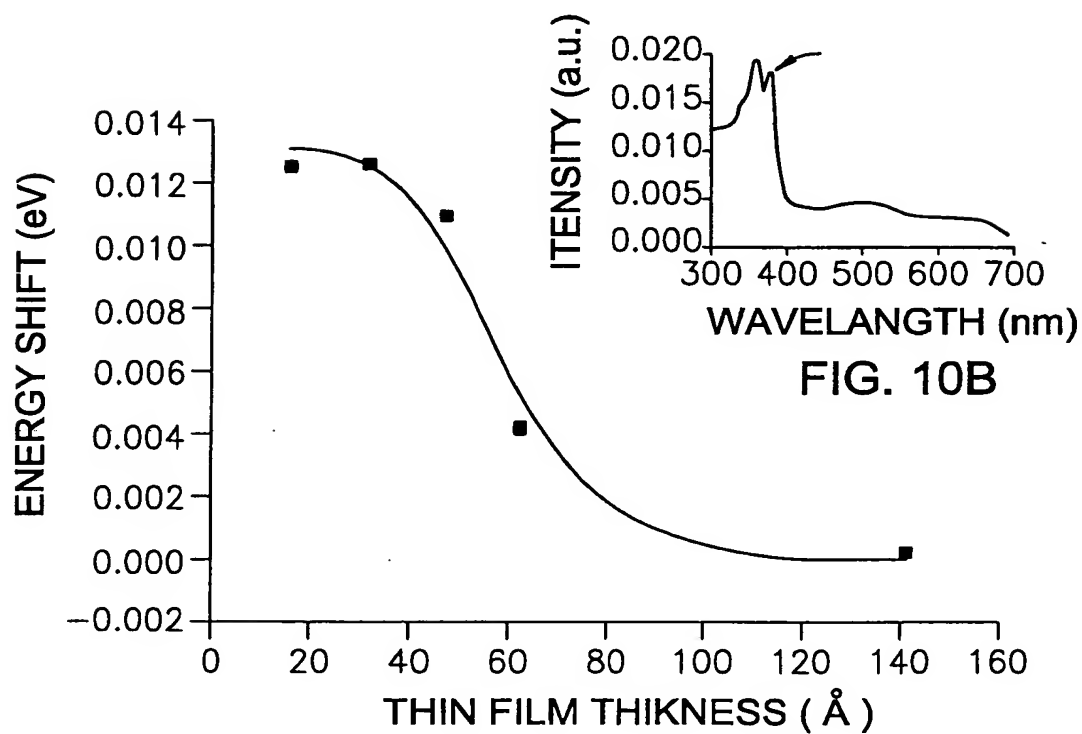


FIG. 10A

FIG. 10B

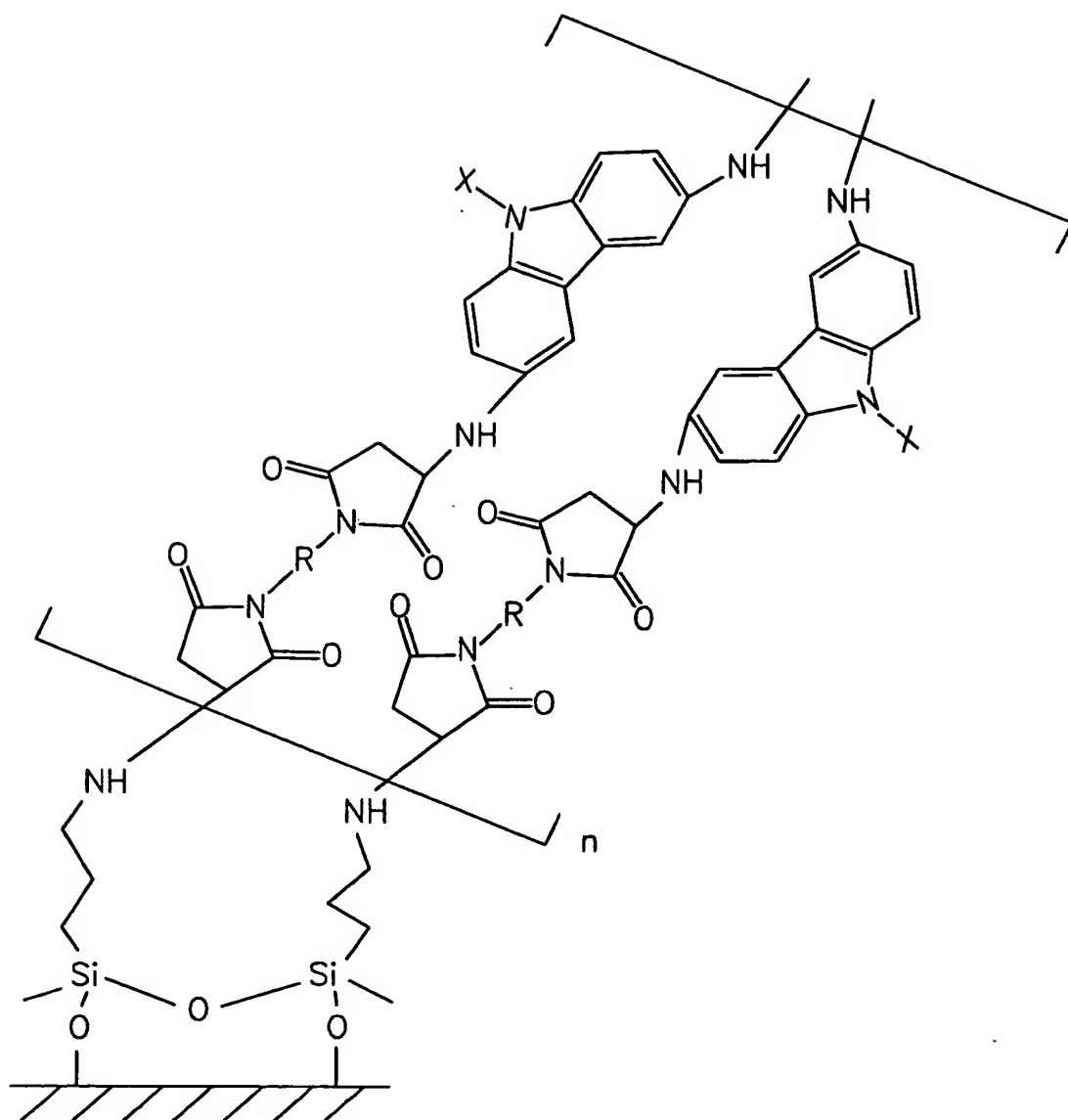


FIG. 11

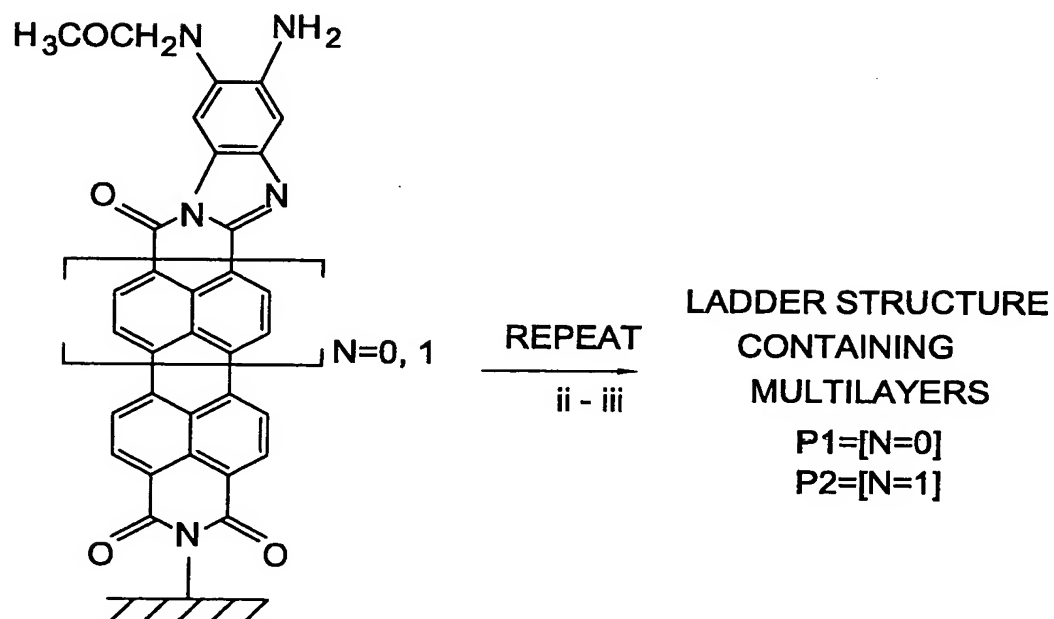
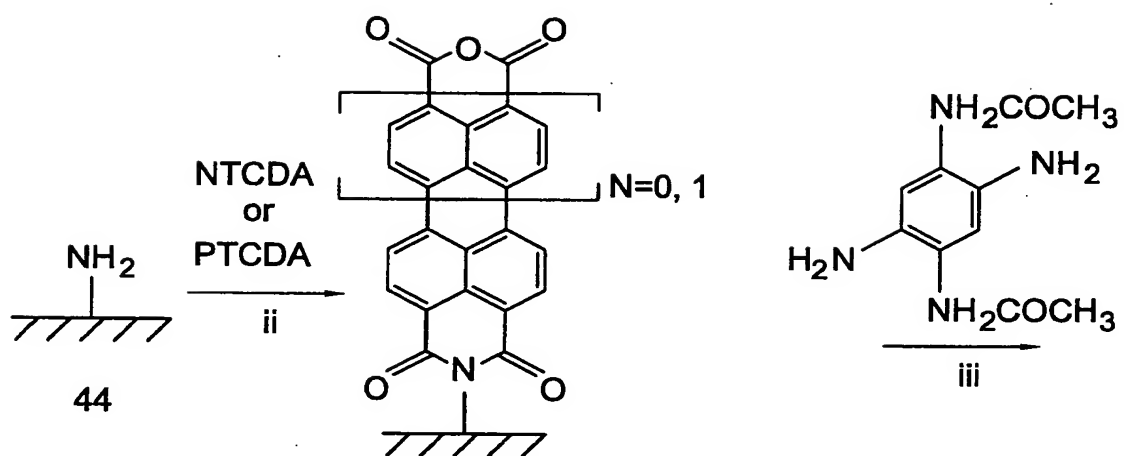


FIG. 12A

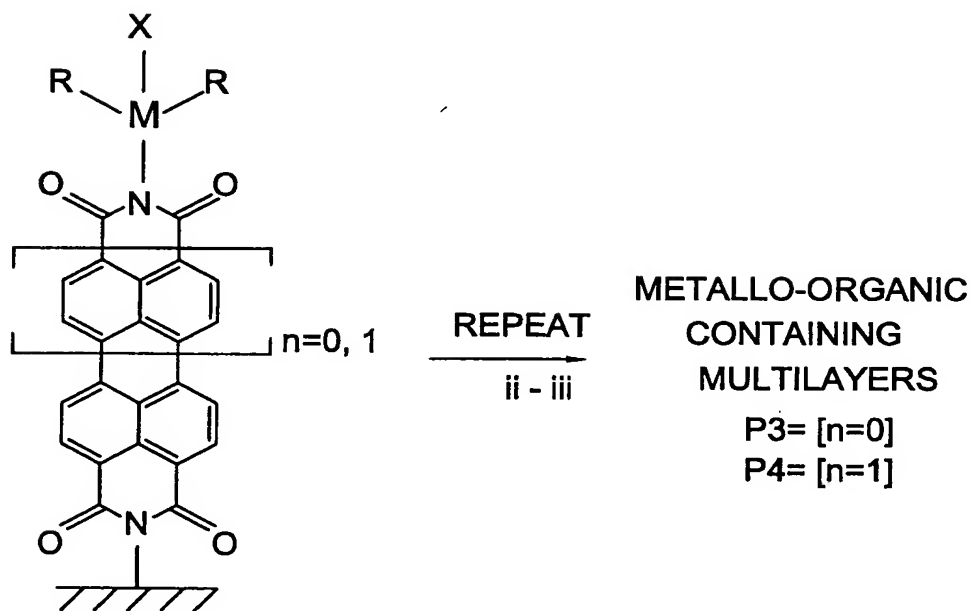
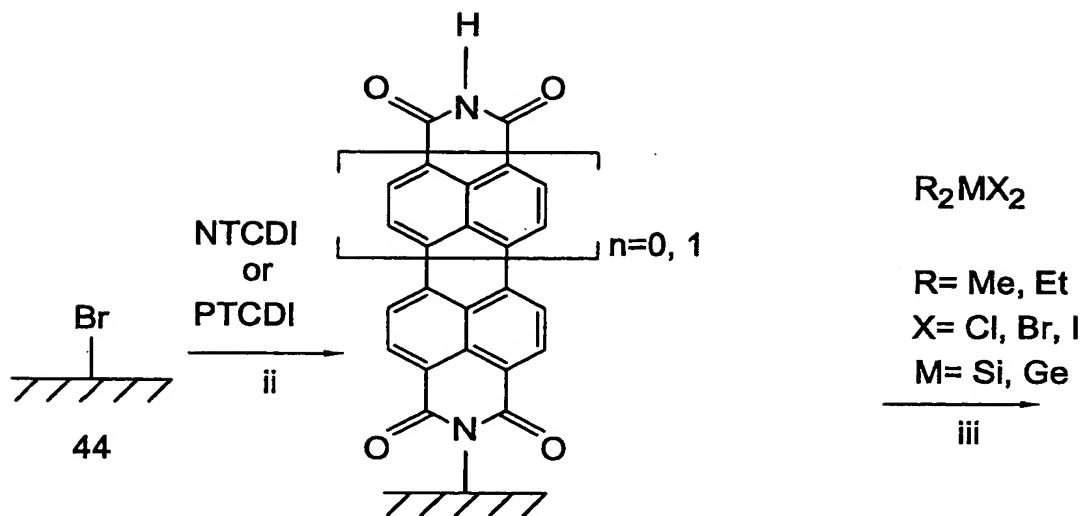


FIG. 12B

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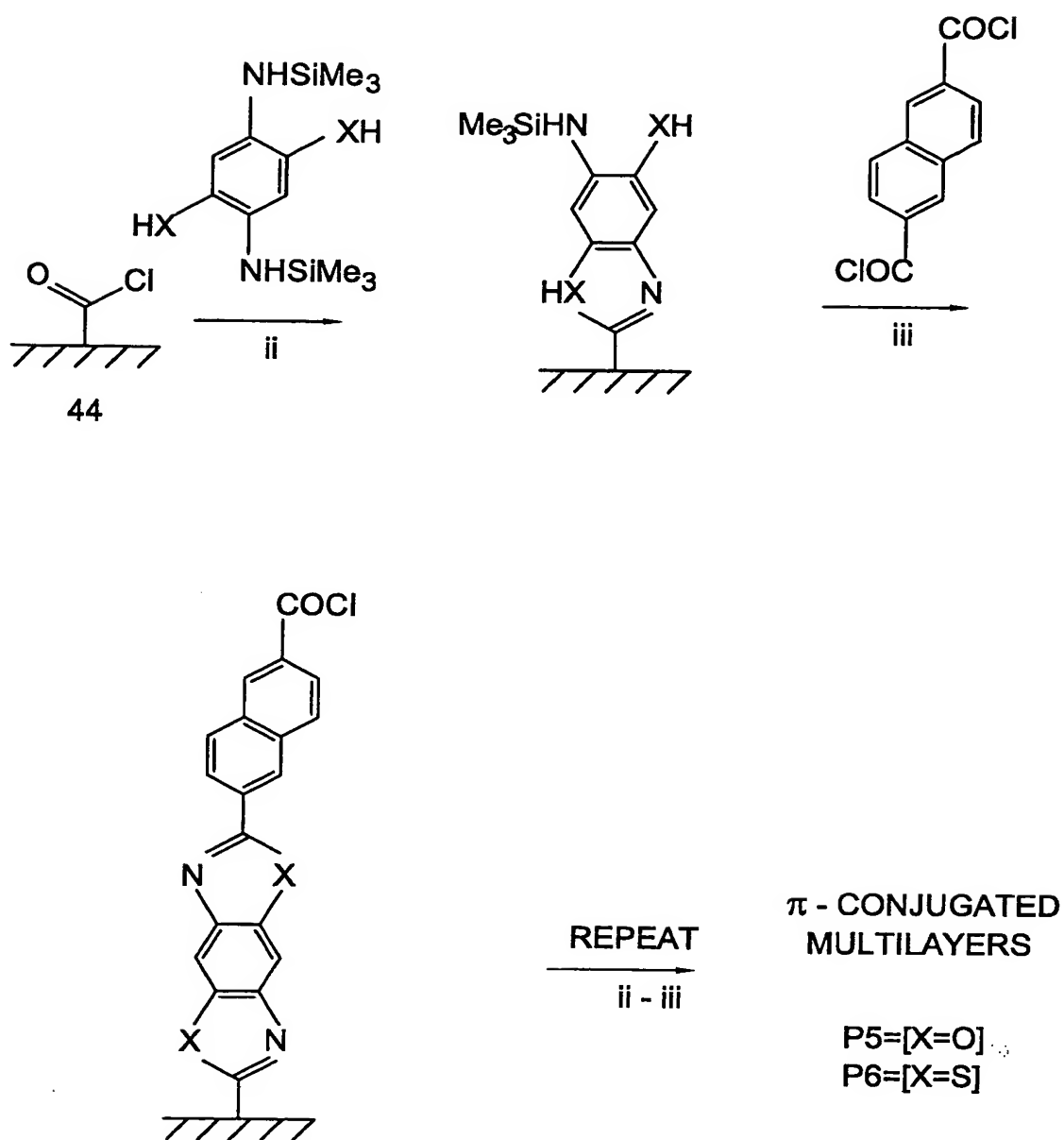


FIG. 12C

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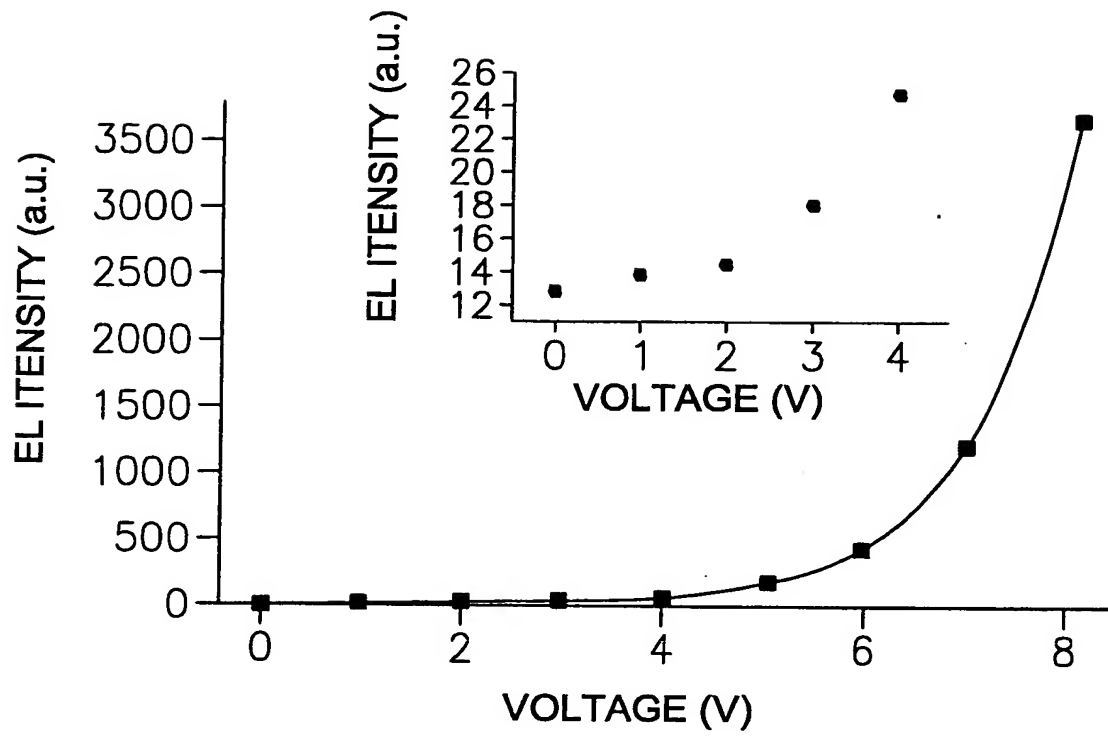


FIG. 13A

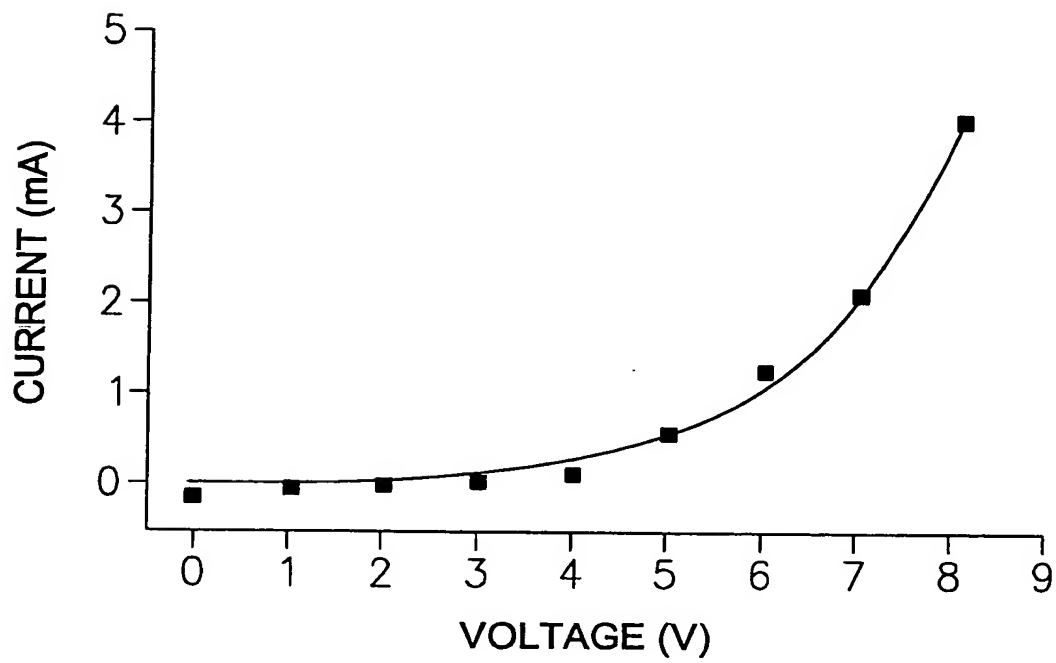


FIG. 13B

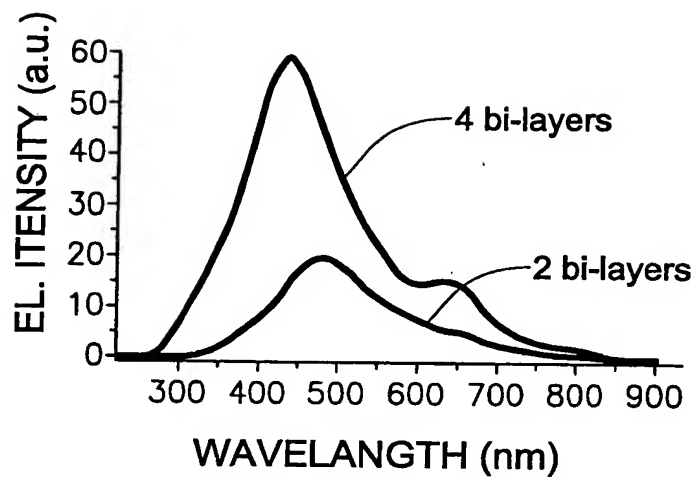


FIG. 14

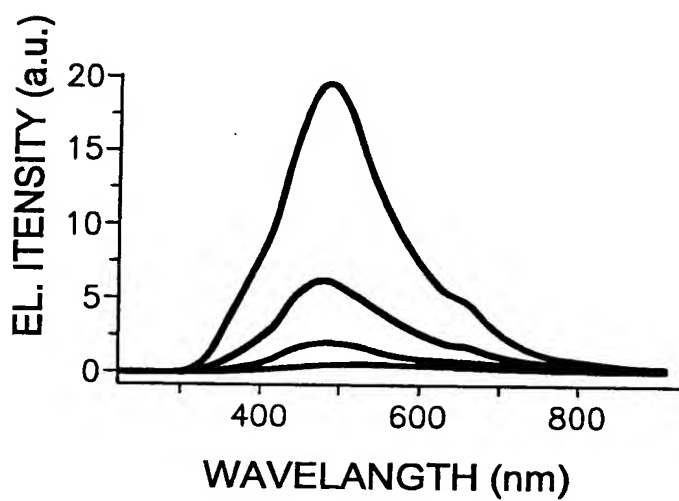


FIG. 15

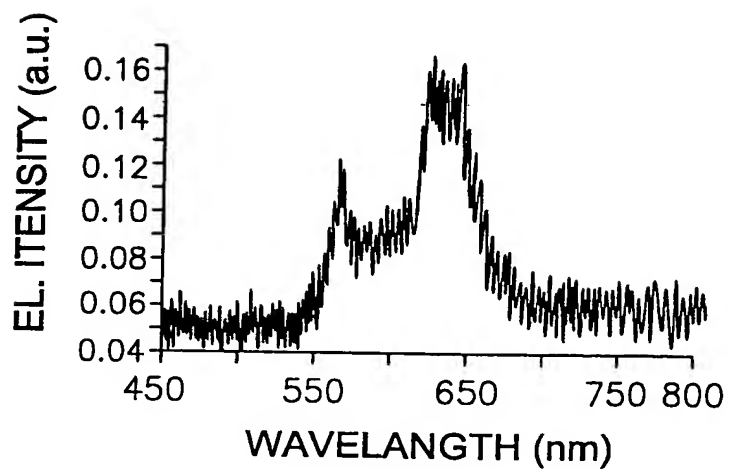


FIG. 16

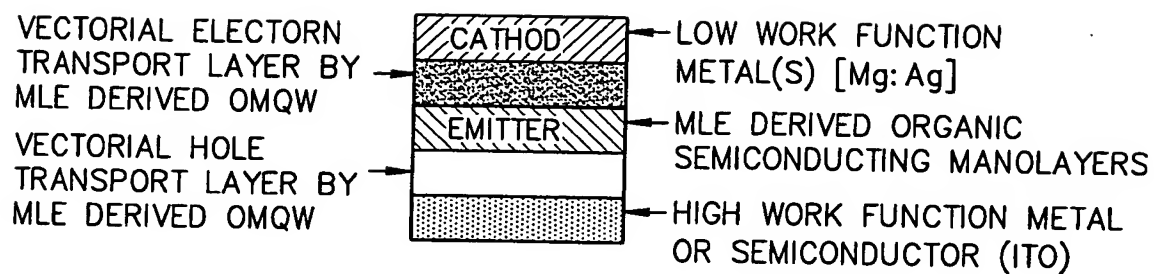


FIG. 17A

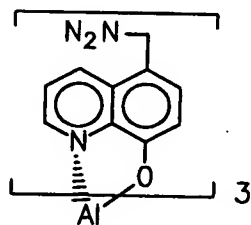


FIG. 17B

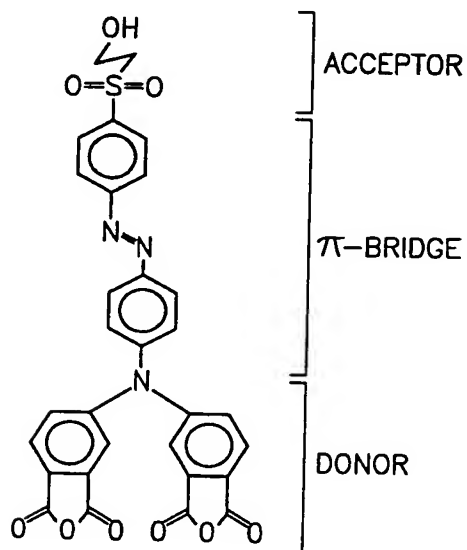


FIG. 18

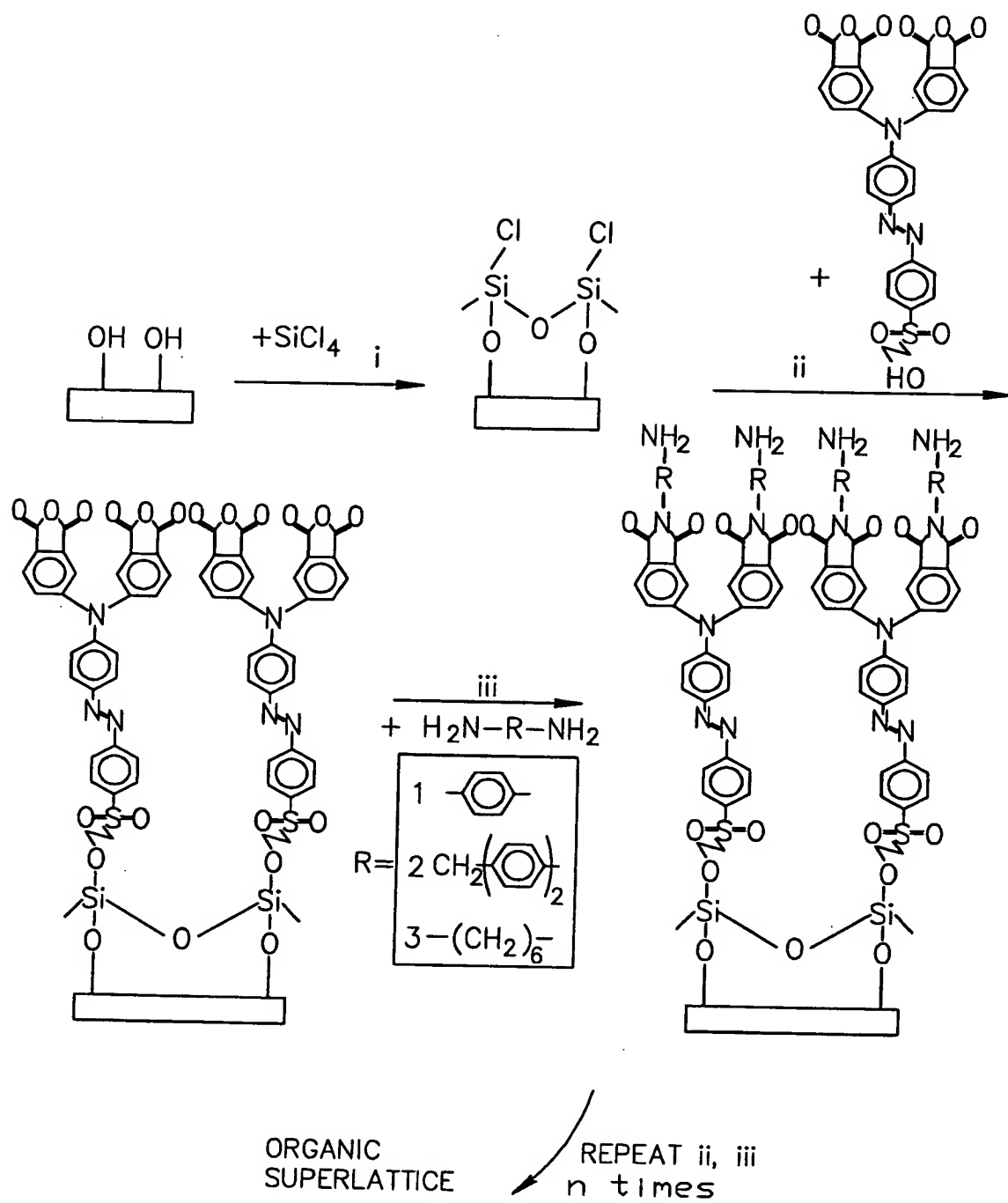


FIG. 19